



## PUBLIC ADDRESS SYSTEM

# OPERATION MANUAL

**T-220BM**

**2.4G MULTIMEDIA ACTIVE LOUDSPEAKER**



Please follow the instructions in this manual to obtain the optimum results from this unit. We also recommend that you keep this manual handy for future reference.

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# 1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

## Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety



### WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.



### CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.



### WARNING

#### When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock.
- Be sure to replace the unit's terminal cover after connection completion. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
- Be sure to ground to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.
- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down, causing personal injury and/or property damage.

#### When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest ITC dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit.
  - If water or any metallic object gets into the unit
  - If the unit falls, or the unit case breaks
  - If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  - If it is malfunctioning (no tone sounds.)
- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest ITC dealer.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

# 1. SAFETY PRECAUTIONS

## CAUTION

### When Installing the Unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.
- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.

### When the Unit is in Use

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.
- Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.
- Contact your ITC dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

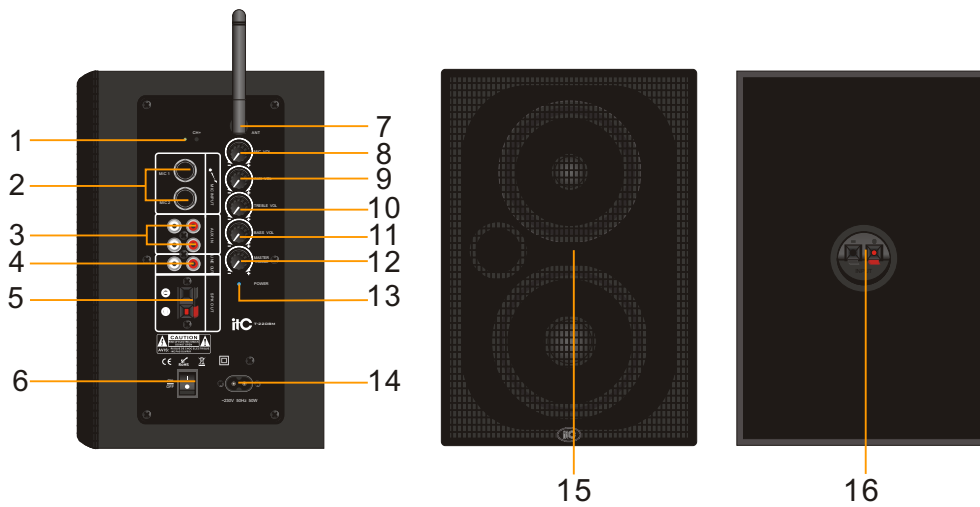
## 2. GENERAL DESCRIPTION

2.4G multimedia active loudspeaker is with feature of high performance, small size, light weight, excellent voice output, easy to operate and maintain, elegant, useful, It is ideal choice for sound applications such as school, conference, household, entertainment and professional performance place.

## 3. FEATURES

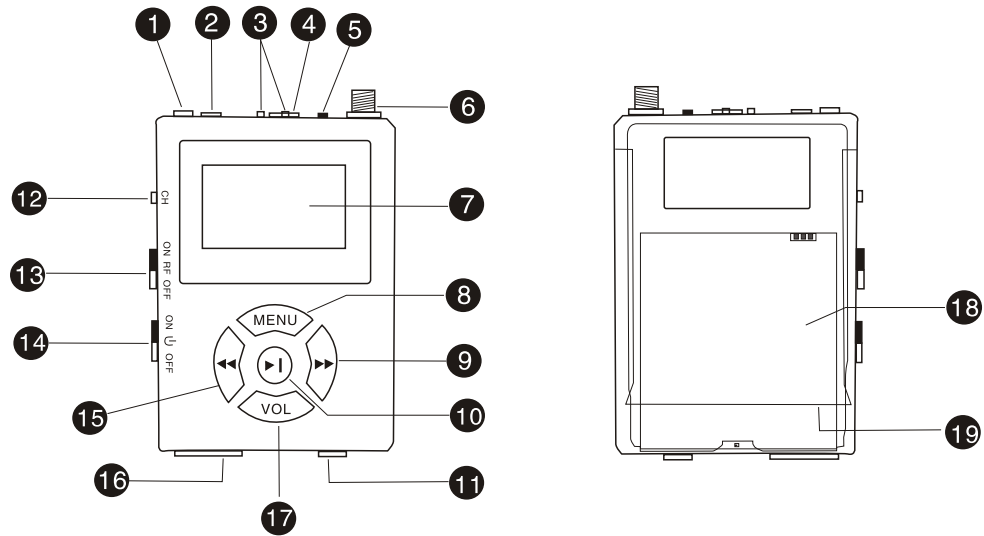
1. Transmission frequency: 2.400-2.483MHz. Hi-Fi, good anti-interference.
2. The highest Sampling frequency 64K@16bit x2 in the industry. Equipped with HDCD effect can reach the best tone quality.
3. Voice delay(<0.5ms).
4. Response frequency 20-20KHz.
5. Automatic enter into match state when it is turned on, and then into accepting state after matching.
6. Distance of The Automatic match from terminal to microphone is less than 1.5m, Time of connection is less than 1s.
7. Support fixed ID operating mode, point to point or point symmetry groups to realize encryption transmission. Receiver support automatic sweep frequency function, to avoid interference easily.
8. with 2.4G microphone volume adjustment.
9. with 3.7V/890mA chargeable lithium battery, support continuous working for 48h, 15 days for standby.
10. 2.4G wireless microphone is built in Mp3 player: 2G(can extend IF card(Max.16G)).
11. 2 line inputs and microphone inputs.
12. 1 line output, to other amplification equipments.
13. Output overload, over voltage and short-circuit protection.
14. Output power is 2x20W with 4  $\Omega$  load.
15. Support mute function, when microphone input is 1-1.5MV, there will be no line input.
16. With one master volume, one microphone volume, one line input volume, two treble and bass.

## 4. NOMENCLATURE AND FUNCTIONS



1. Frequency conversion switcher and light indicator of 2.4G wireless module
2. MIC1, MIC2 Input
3. Line input
4. line output
5. Speaker output terminal, with assistant speaker
6. Power switch
7. Receiving antenna of 2.4G wireless module
8. Mic Volume potentiometer
9. line input volume potentiometer
10. treble adjustment potentiometer
11. bass adjustment potentiometer
12. master volume potentiometer
13. power light
14. AC power input socket
15. 5 " woofer speaker (103A)
16. speaker input to connect with the output from the main speaker box

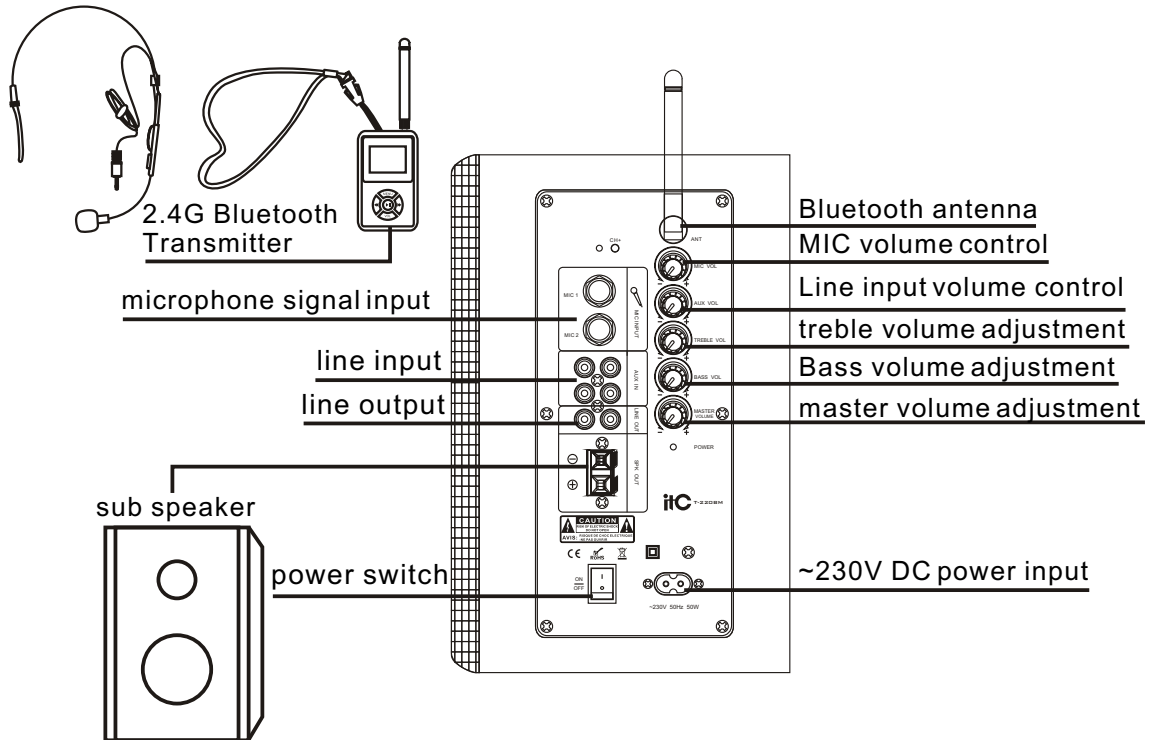
## 5. BLUETOOTH TRANSMITTER NAMES AND FUNCTIONS



- |                                      |   |
|--------------------------------------|---|
| 1. line input phone jack             | 10. play confirmation/ pause button     |
| 2. headset phone jack                | 11. data link port                      |
| 3. Hand Strap hole                   | 12. channel button                      |
| 4. IR Receive                        | 13. Wireless transmitting on/off button |
| 5. channel indicator                 | 14. power switch                        |
| 6. antenna                           | 15. Back button (backward, turn pages)  |
| 7. LCD display                       | 16. SD card socket                      |
| 8. Main menu                         | 17. volume button                       |
| 9. Forward button (FF, page turning) | 18. battery cover                       |
|                                      | 19. Belt clip                           |

## 6. APPLICATIONS

### REAR PANEL CONNECTIONS

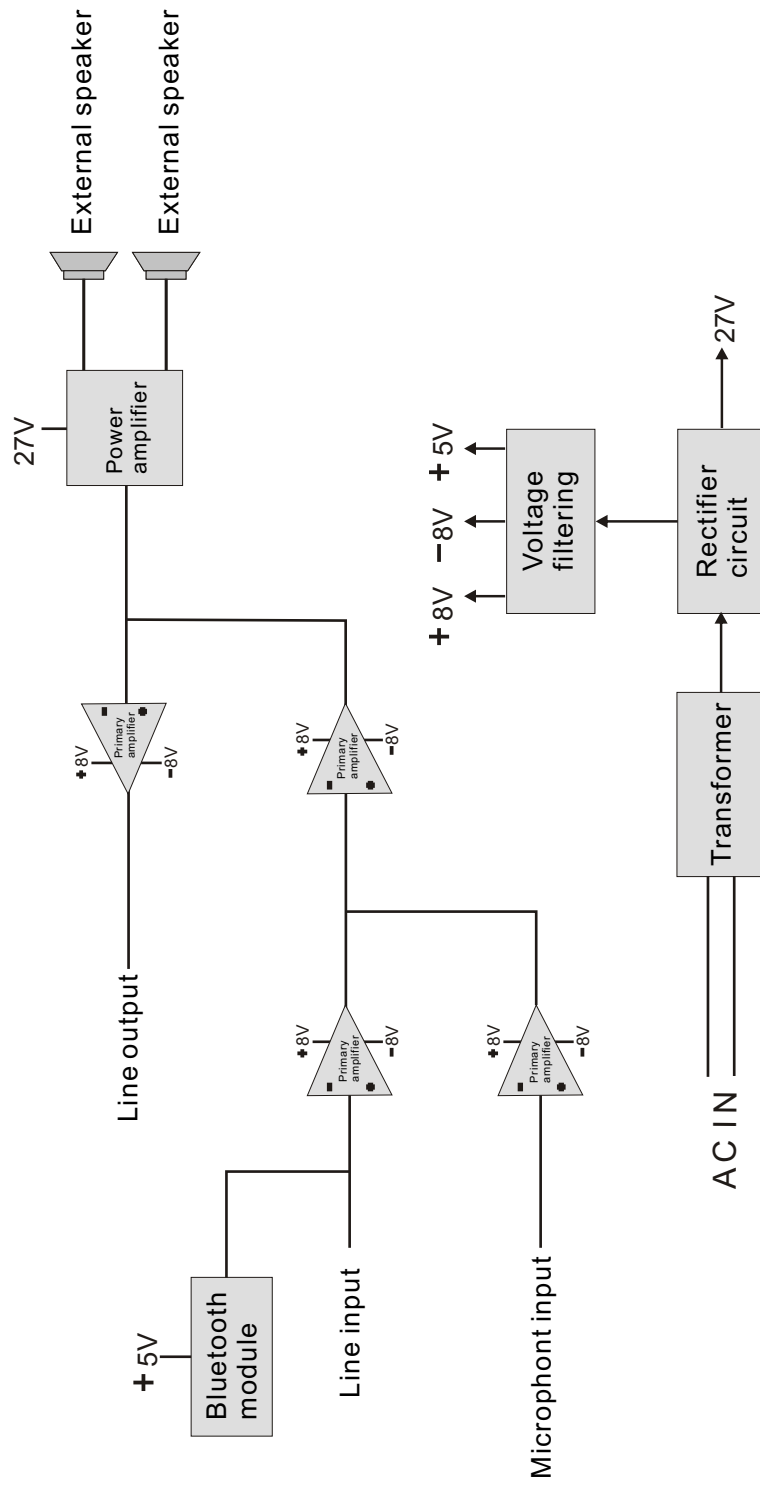




## 7. OPERATING INSTRUCTIONS

1. before power on, make sure whether the local power voltage is corresponding to that indicated on products. The best power supply is AC 230V, 50Hz. With allowable AC voltage at minimum 200 V, maximum 242 V. Beyond the voltage range, the machine could not work properly, or even damage. Before power connection, please make sure if the socket and the power cord is not well, the power supply plug head and outlet specifications is same. Please turn off the AC power switch before connect AC power. In order to ensure the safety, please pull the power cord plug out after shutdown.
2. 2.4 G wireless module working status indicator light :
  - 1) standby mode, the blue light slow flash;
  - 2) matching condition, indicator quick flash ;
  - 3) receiving status, the light is off.
3. frequency adjustment: click on the "CH +" button to change the frequency band.
4. sweep frequency matching operation: press "CH +" button for 5 seconds, then the microphone will automatically enter into the frequency sweep and matching, and then into accepting state.
5. Restore factory Settings: press the transmitter channel button for about 24 seconds till the indicator light flashing fast, then restart to complete the resetting. (note: This feature with caution)

## 8. DIAGRAM



## 9. SPECIFICATIONS

Model	T-220BM
Rated power output	2X20W
Output impedance	4 $\Omega$
Input sensitivity	LINE IN : 350MV $\pm$ 20MV MIC: 5MV $\pm$ 0.5MV LINE OUT: 1V $\pm$ 0.5V
Input port	LINE INx2,MICx2,LINE OUTx1
Signal to Noise Ratio	$\geq$ 70dB
Frequency response	20Hz~20KHz( $\pm$ 3dB)
Volume adjustment	one master volume, one Line in volume
THD	$\leq$ 1%
Work temperature	5 $^{\circ}$ C~40 $^{\circ}$ C
Work humidity	20%~80% relative humidity, non condensing
Power consumption	$\leq$ 50W
Power supply	~230V 50Hz
Dimension	191x280x178mm
Net weight	6Kg

# PUBLIC ADDRESS SYSTEM

